

FIG. 1

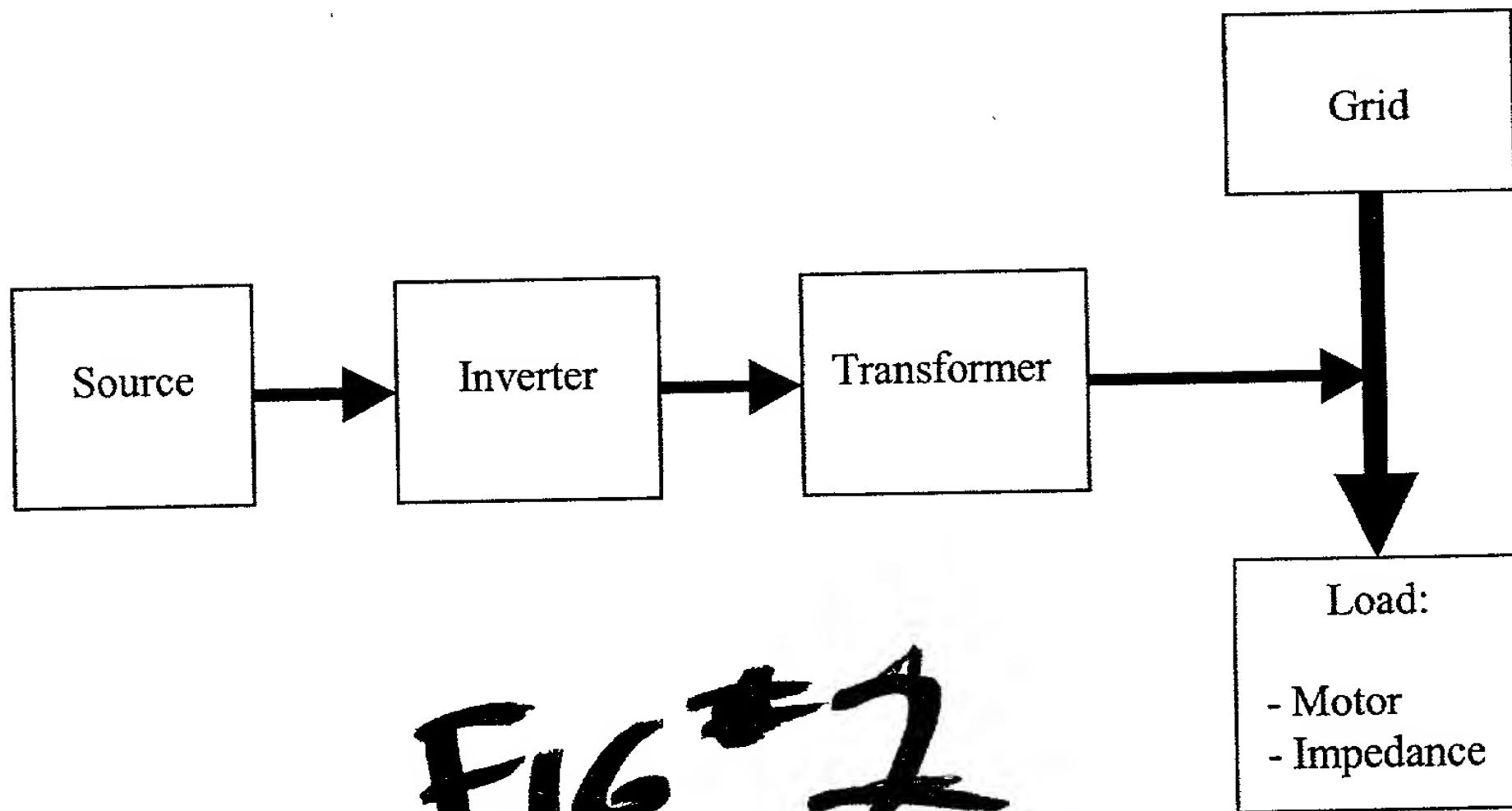


FIG #2

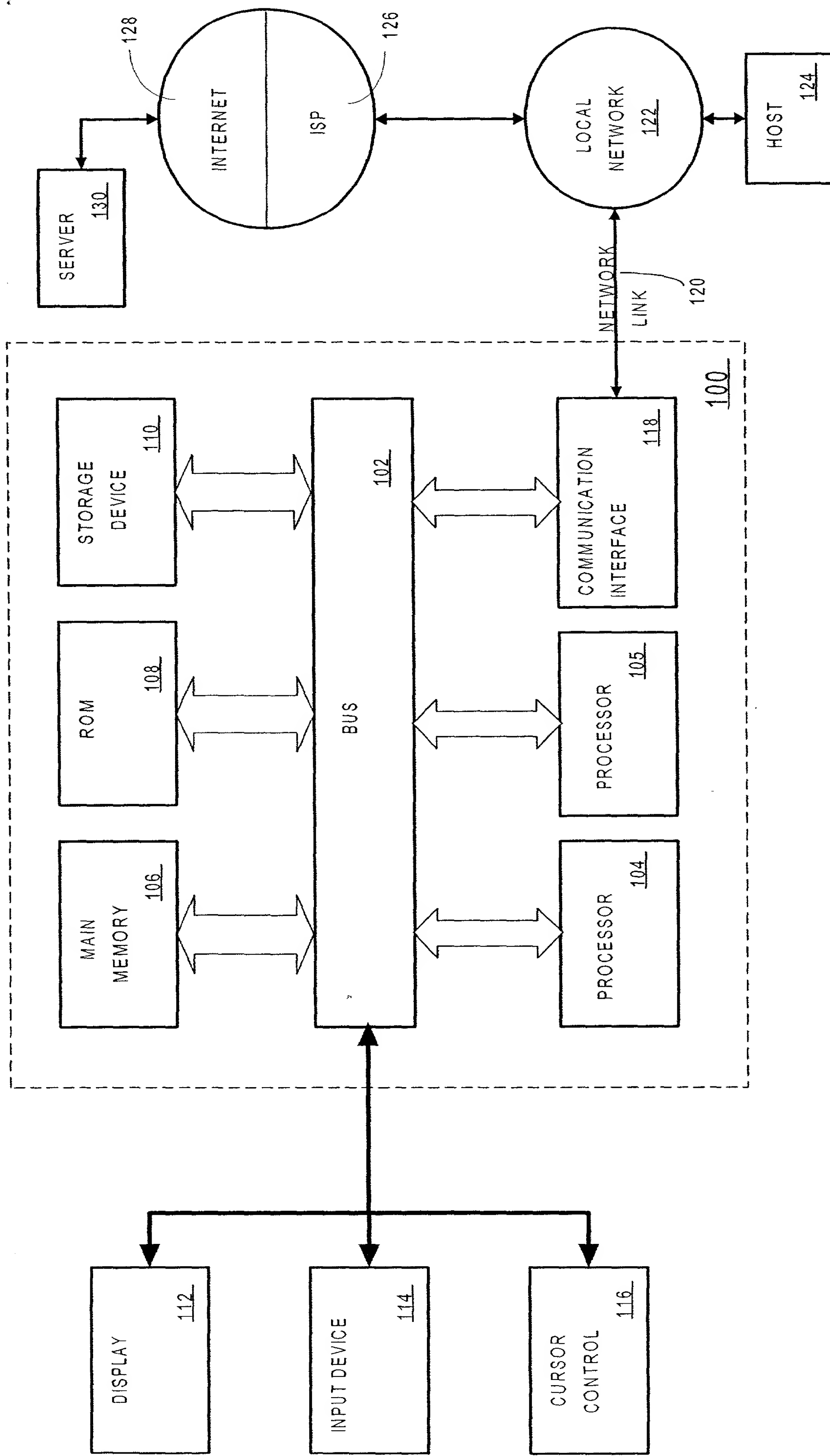
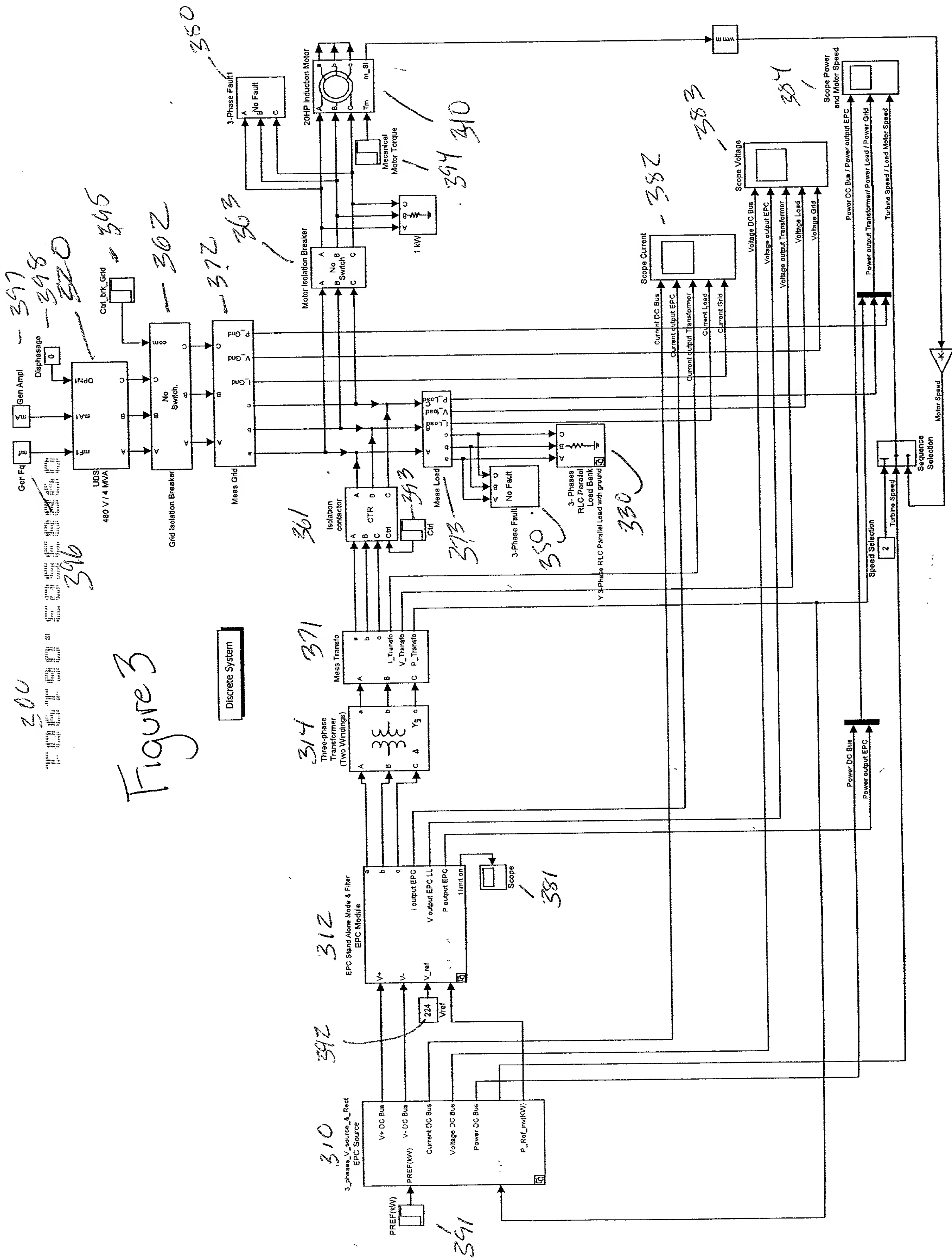


FIG. 2



Grid Mode:

Specify: $T_s = 25e-6$, $N_D = 10$, $K_S = 10$

Execute: param_lpu, param_pmg, param_turb

Initial conditions: 75 kW --> load ltg_avg_75 (xlnit_75)

0 kW --> load itg_avg_0 (xlnit_0)

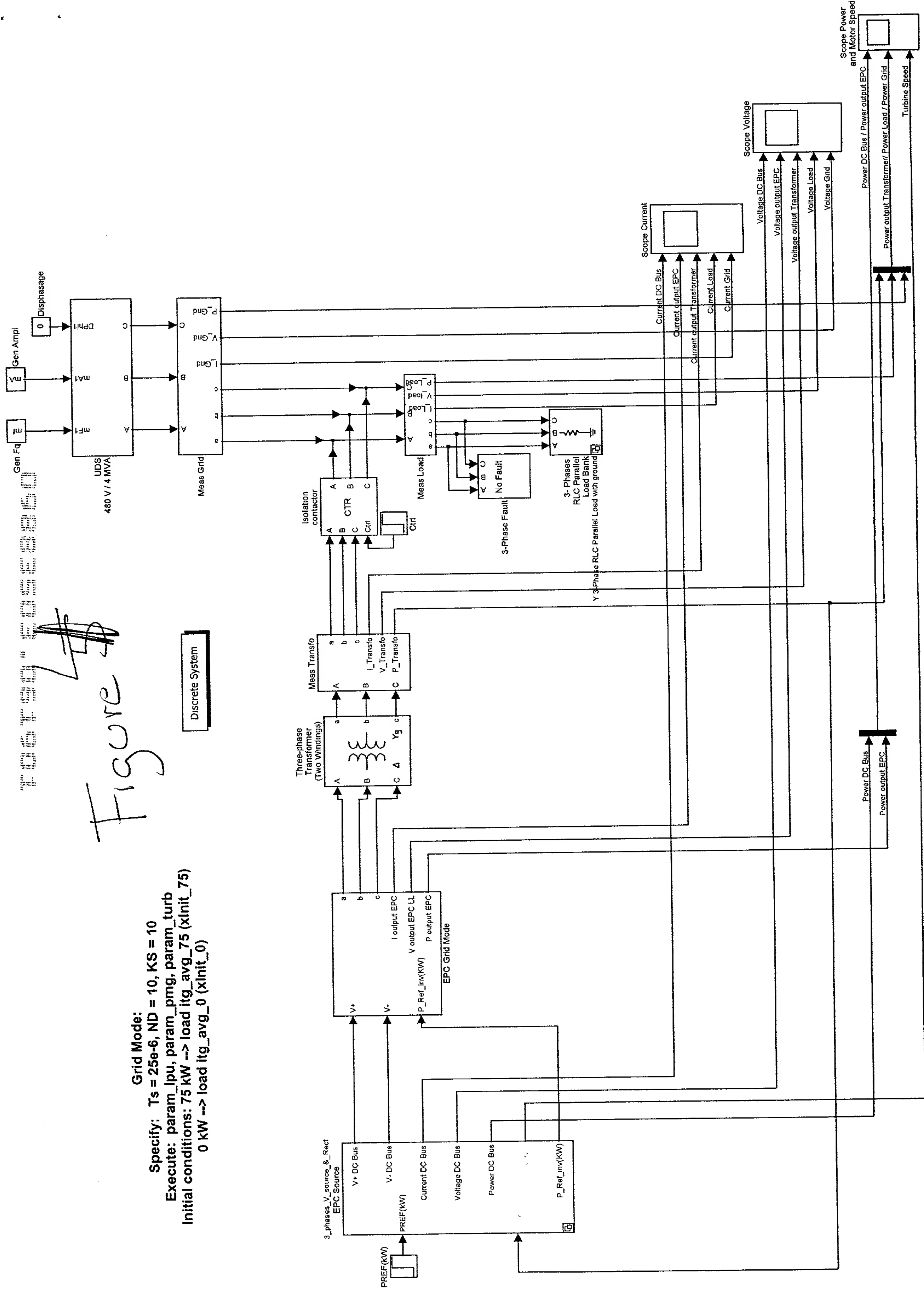
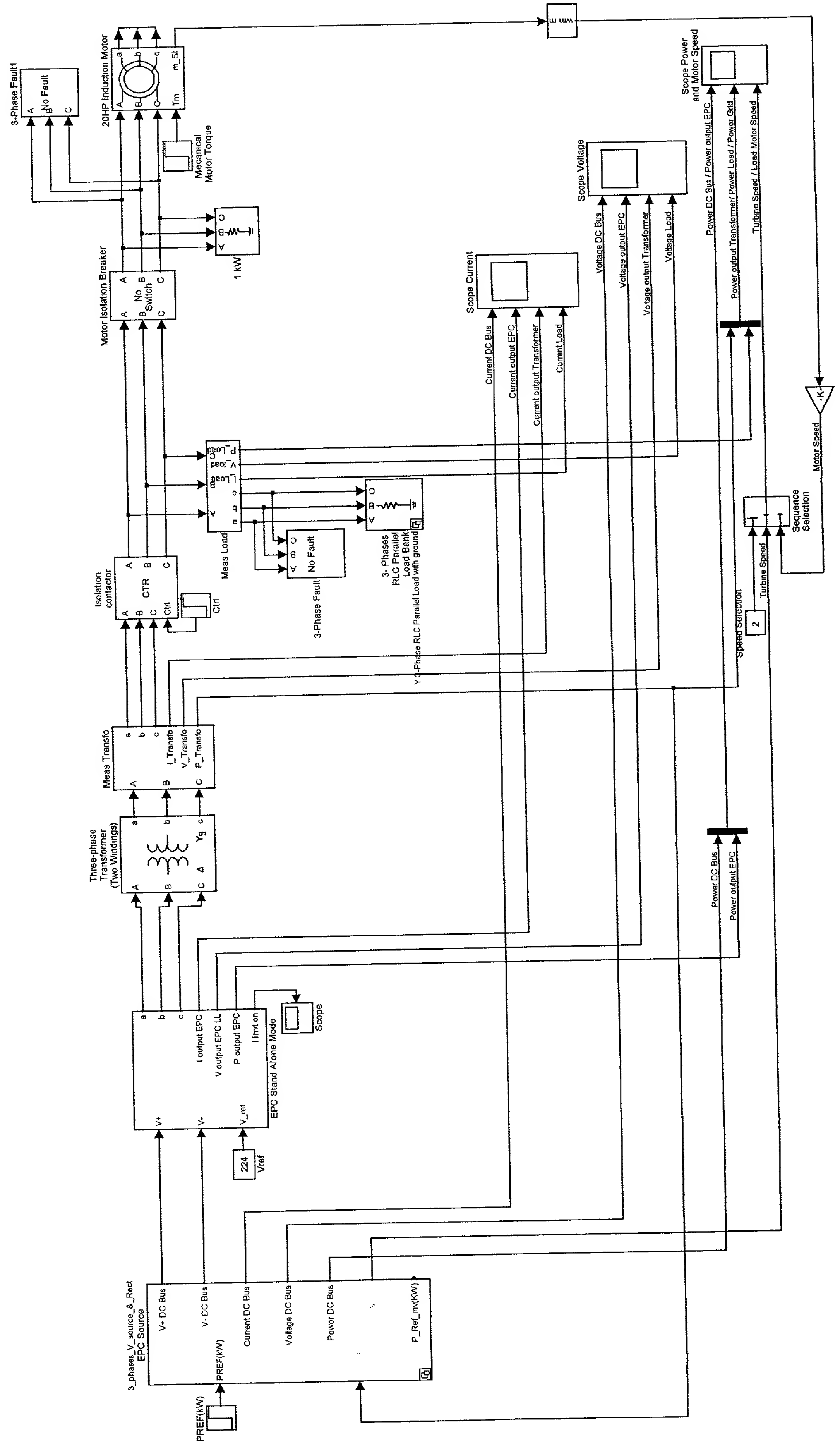


Figure 1

Stand Alone Mode:
Specify: Ts = 25e-6
Execute: param_lpu, param_pmg

Discrete System



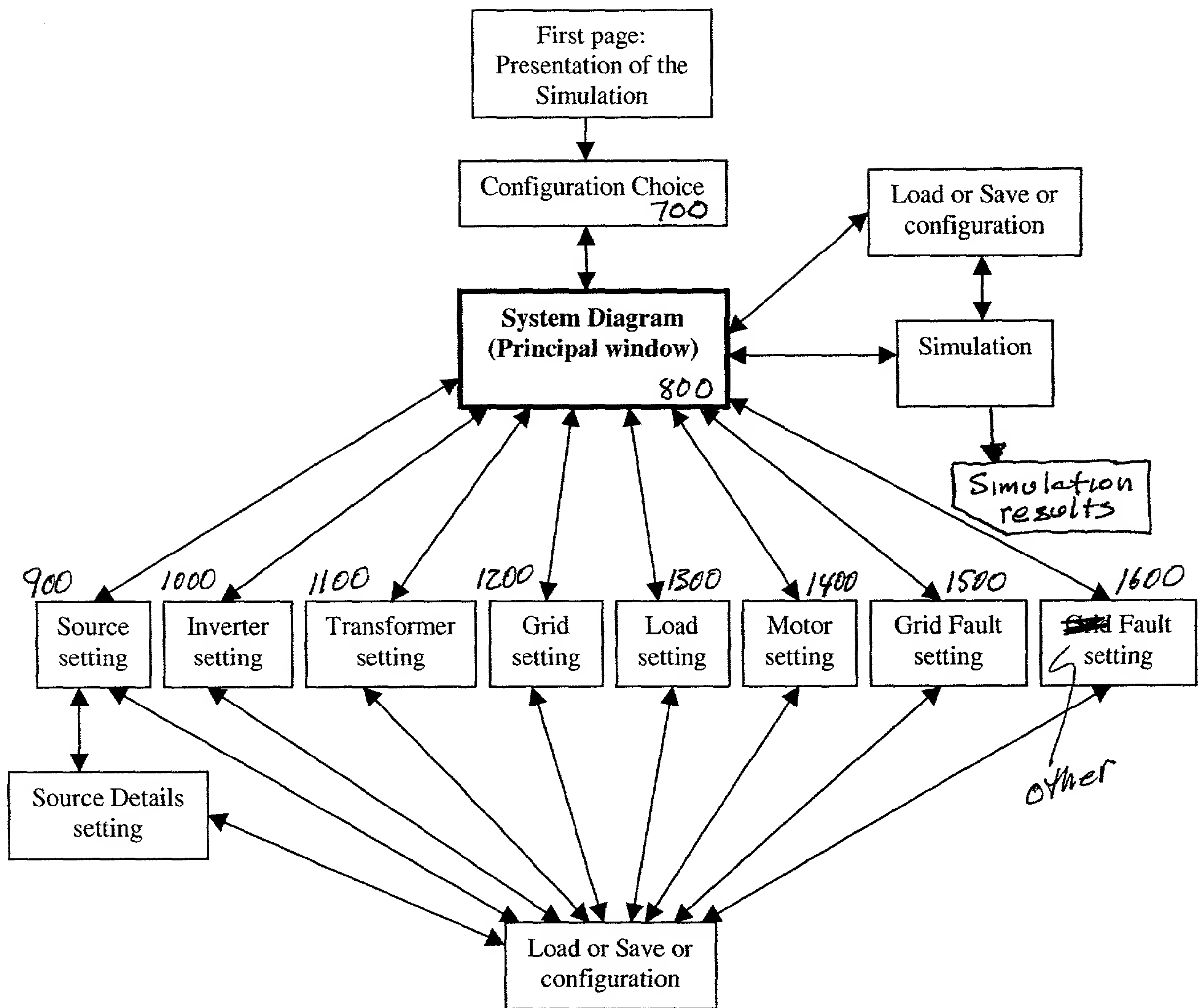


FIGURE 6.

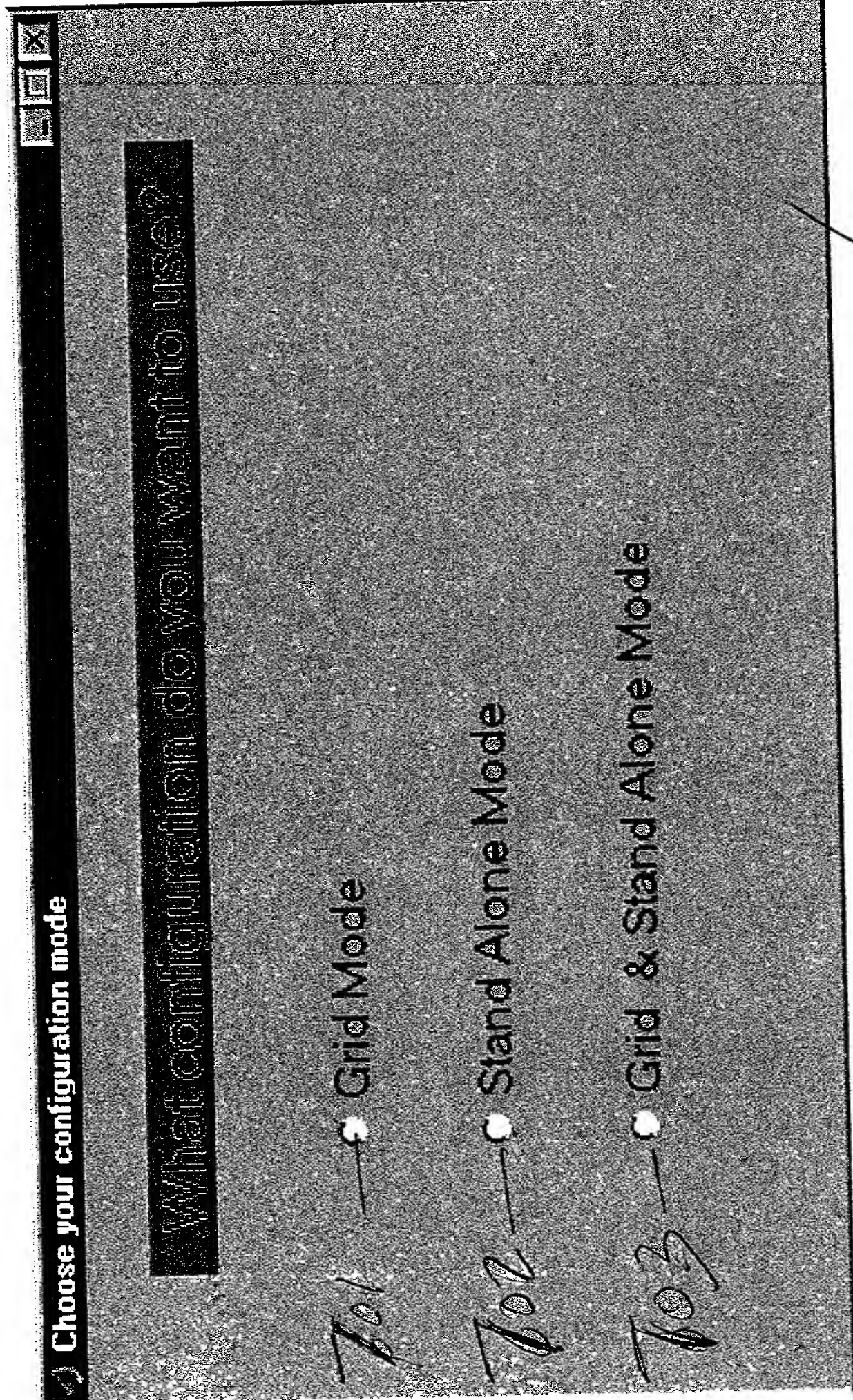


Figure 7

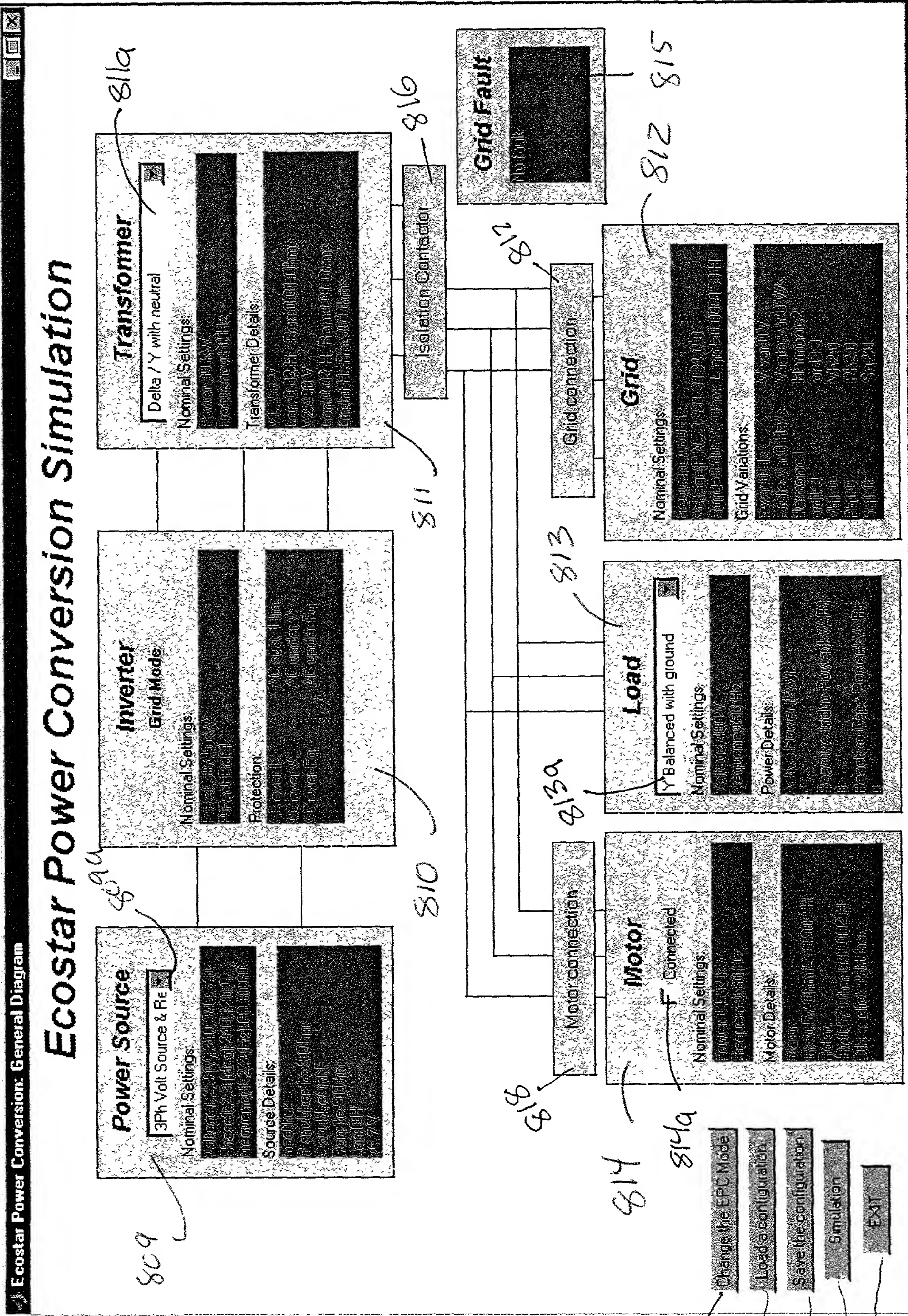


FIGURE 8

Source setting:

SOURCE

Load a configuration

Save the configuration

Source

3Ph Volt Source & Rect

Source Details:

Snubber R:1e-9 Ohms

Snubber C:inf F

R on:1e-9 Ohms

L on:0 H

Vt:7 V

Nominal settings:

902

Voltage 1 (Peak/AmpI):

340

300V

400V

901

Voltage 2 (Peak/AmpI):

340

300V

400V

Frequency 1:

60

45Hz

1100Hz

Frequency 2:

60

45Hz

1100Hz

Frequency 3:

60

45Hz

1100Hz

OK

900

FIGURE 9 a

Source Details setting:

SOURCE DETAILS

Load configuration

Save the configuration

Snubber R: 1e-9 0 Ohms 10 Ohms 911

Snubber C: inf 1e-9 F infini 912

Ron: 1e-9 0 Ohms 10 Ohms

Lon: 0 0 H 1e-3 H

Diode Voltage Drop: .7 0 V 5 V

OK

910

Figure 9b

Inverter setting:

Inverter

Load a configuration

Save the configuration

Operation Mode: Stand Alone Mode

Inverter Protection: Not available in this release

Nominal settings

Power

75

60kW

200kW

Power Factor

1

0.75|ea

0.75|ag

AC overvoltage

80%

200%

AC overcurrent

100%

200%

AC over frequency

45Hz

65Hz

AC sustained limit

80%

200%

AC under voltage

30%

100%

AC under frequency

45Hz

65Hz

OK

Figure 10

Transformer setting:

TRANSFORMER

Load a configuration

Save the configuration

Transformer Type:

Delta / Y with neutral

Nominal settings:

Power:

90

50kW

200kW

Frequency:

60

45Hz

100Hz

Magnetisation settings:

Rm (p.u.):

30

10 Ohms

1 kOhms

Lm (p.u.):

Inf

1 H

Winding 1:

Voltage:

257

200V

800V

R1:

0.01

1e-4 Ohms

0.1 Ohms

L1:

0.02

1e-3 H

0.1 H

Winding 2:

Voltage:

480

200V

800V

R2:

0.01

1e-4 Ohms

0.1 Ohms

L2:

0.02

1e-3 H

0.1 H

OK

Figure 11

Grid setting:

GRID

Load a configuration

Save the configuration

Nominal settings:

Frequency

60

45Hz

65Hz

Voltage Positive Insertion

391.918

326V

457V

Voltage Negative Insertion

0

0V

46V

Voltage Zero Insertion

0

0V

46V

The amplitude are the peak amplitude

Grid Variation:

Voltage Mag Var Amplitude

0

0V

40V

Voltage Mag Var Rate

0

0V/s

20V/s

Frequency Var Amplitude

0

0Hz

10Hz

Frequency Var Rate

0

0Hz/s

10Hz/s

Harmo Insertion 1

0

0V

56V

0deg

360deg

Rank 5

Seq 2

Harmo Insertion 2

0

0V

56V

0deg

360deg

Rank 7

Seq 0

OK

Figure 12

Load setting:

LOAD

Load Type:
Y Unbalanced without grou

Load a configuration

Save the configuration

NOMINAL SETTING

Nominal Voltage

480

400V

560V

Frequency

60

45Hz

65Hz

ACTIVE POWER

Phase 1

15

0 kW

80 kW

Phase 2

10

0 kW

80 kW

Phase 3

5

0 kW

80 kW

REACTIVE INDUCTIVE POWER

Phase 1

0

0 kVAR

80 kVAR

Phase 2

0

0 kVAR

80 kVAR

Phase 3

0

0 kVAR

80 kVAR

REACTIVE CAPACITIVE POWER

Phase 1

0

0 kVAR

80 kVAR

Phase 2

0

0 kVAR

80 kVAR

Phase 3

0

0 kVAR

80 kVAR

OK

Figure 13

Motor setting:

Load a configuration

Save the configuration

MOTOR

Nominal settings:

Power

50kW

200kW

800V

Voltage

45Hz

65Hz

Mutual Inductance L_m (H)

0H

1e-6H

Frequency

Stator:

R_s (Ohm)

10 Ohms

50 Ohms

L_s (H)

0H

1e-6H

R_r (Ohm)

10 Ohms

50 Ohms

L_r (H)

0H

1e-6H

Mechanical:

Inertia

300V

800V

10 Ohms

50 Ohms

Friction Factor

1

Pairs of Poles

0H

1e-6H

Mechanical Torque

Time of application

Initial conditions:

Slip

Theta (deg)

I_{sa} , I_{sb} , I_{sc} (A)

phi_a, phi_b, phi_c (deg)

OK

Figure 14

Load a configuration

Save the configuration

Program a fault (short-circuit) between any phase and the ground

For example, check A and Ground to program a fault A-B round. Check A and B to program a fault A-B.

R_s and R_{fg} resistances must be greater than zero. Use small values of R_s and R_{fg} (e.g. 0.001 ohm) to specify a fault without ground resistance.

Time Transition:
Time for the fault status change

Fault Status: 0/1

1: fault is active
0: fault is not active

Ex: $TT=1050.71$ & $FS=11.01$

42

1000

Phase C

Ground

Transition Time

Fault status

Figure 15

50

Isolation Contactor setting:

Motor Isolation Contactor

Initial Status (0=open, 1=closed)

Time Transition

Transition Status

Breaker Parallel Resistance Rp(Ohm)

Breaker Series Resistance Rp(Ohm)

Load a configuration

Save the configuration

OK

1600

Figure 16

Change the System Mode

Do you want to change the system mode?
The last model modifications won't be saved

Save button: save the model and the settings

Simulation setting:
File Edit View Insert Tools Window Help

SIMULATION

Load the simulation parameters

Save the simulation parameters

Default

Simulation Time:

Start Time: 0

Stop Time: 0.25

Initial State:

☐ Load an Initial State

☐ From the workspace

☐ In a file

☐ Save the Final State

☐ In the workspace

☐ In a file

Choose

Choose

Choose

Choose

Choose

Choose

☐ Save the waveforms in a file

Choose

Simulation:

Scope Decimation: 10

Start

Pause

Continue

Stop

Figure 17

1700

Figure 18

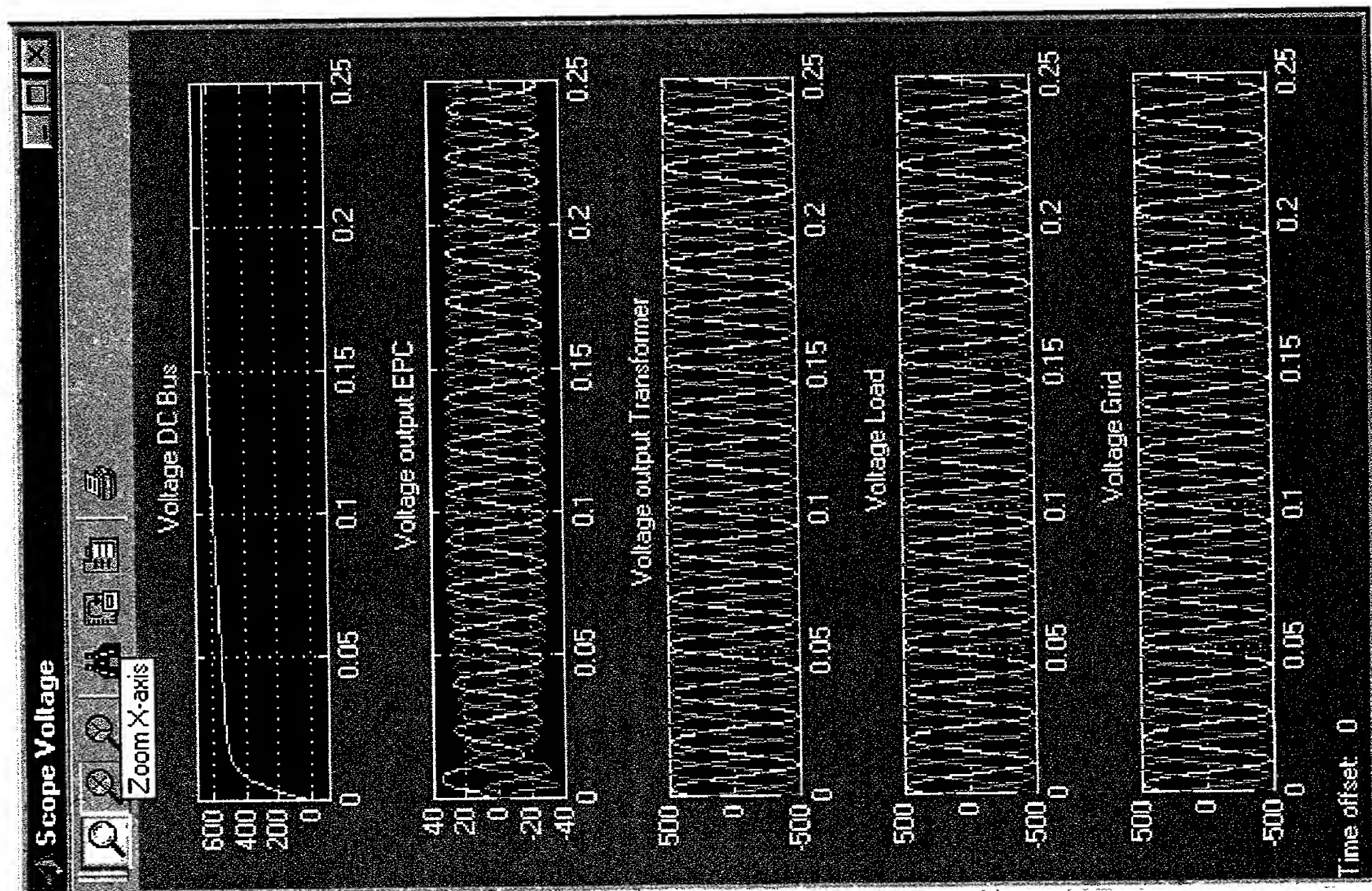


Figure 19

